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17. ABSTRACT (MAX. 250 WORDS)

The Institute's test battery is intended to assess the child's achievement in cognitive style, perceptual ability, language development, and reading achievement. The two major phases in the Institute's research program are exploration of early environmental factors and their relation to various cognitive, perceptual, achievement, and motivational factors, and the development of school remedial, reading, and enrichment programs. The index classifies each test, gives stages of development, and a short identifying description.

A list of specific standard tests available for use follows. A short description of tests gives the purpose and method for each type. The tests are organized under seven categories; (1) Social Classification and Behavioral Evaluation. This section includes appraisal scales to measure behavior which may affect scores in test and interview measures used to establish socio-economic level. (2) The Verbal tests obtain samples of children's speech, and relate verbal behavior to perceptual, cognitive, and cultural factors. (3) Perceptual tests are used to assess sensori-motor relationships, and to investigate factors potentially underlying success in learning to read. (4) Cognitive tests assess factors which will be related to school achievement, intelligence, and non-verbal intellectual performance. (5) Dominance laterality tests investigate factors implicated in the literature on reading and speech disabilities. (6) Auditory-visual tests are concerned with modality preference and modality efficiency, and it is anticipated that they will be related to adequacy of reading, and to the type of enrichment program best for the individual child. (7) Reading, achievement, diagnostic and prognostic tests, are designed to show the child's abilities, including his general reading level as well as specific skills important in maintaining that level.

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INDEX AND SHORT DESCRIPTION OF ALL TESTS

The Institute for Developmental Studies

Department of Psychiatry
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U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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Date: November 24, 1960

C O N T E N T S

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INDEX OF ALL INSTITUTE TESTS

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*1 indicates test completed and ready for use.
2 indicates te[illegible] will require moderate am't of work before use.
3 indicates test construction has begun, but much remains to be done.
**E indicates that special equipment has been devised for this test.

INDEX OF ALL INSTITUTE TESTS

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	E	2	(b) Rocket	Expressive measure of older child's spontaneous verbalizations	D.B.,V.J & I.T.	19	
		B. Verbal meaning and context tests:					
		1	(a) Cloze	Measures ability to predict words from context or impose meaning on a partially structured message	D.B.& V.J.	19	
		3	b) Verbal meaning and context for children's speech samples	Structured receptive verbal test measuring ability to predict words from context or impose meaning	I.T.	19	

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		2	(c) Parallel lines	A motor test measuring handedness	C.D.	27	
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	E	3	(a) Auditory-visual continuous performance test	Comparative efficiency at monitoring sequences of auditory and visual signals	R.W. &C.D.	30	
	E	3	(b) Auditory-visual interference task	Performance decrement due to distracting auditory and visual signals	R.W. &M.D.	30	See also: Attention span battery, bimoda reaction time appara pattern board, and pictorial, and audit absurdities.
		C. Modality preference tests					
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		B. Diagnostic reading tests					
		2	(a) Sight vocabulary	Child's ability to pronounce words correctly at first sight.	S.F.	33	
		2	(b) Word parts test	Measures phonic skills basic to reading; visual and auditory forms are used	S.F.	33	
		C. Institute Prognostic reading tests					
		2	(a) Reading prognosis test	To be used as a predictor of first grade reading achievement	S.F.	33	See also: Scanning tes

INDEX OF ALL INSTITUTE TESTS (MISCELLANEOUS)

The following standard tests are on file and available for use.

Category	Test	Population and Comments
I.	INTELLIGENCE TESTS:	
	(a) The Raven Coloured Progressive Matrices	Ages 5 - 11, individual
	(b) Grace Arthur Stencil Design Test	Developed for deaf children; no verbal instructions
	(c) CMMT: Pre-Primary, Primary Elementary	
	(d) Chicago Non-verbal Examination	Age 6 and over, administered orally
	(e) Columbia Mental Maturity Scale	Age 3 - 12; individual
	(f) Davis-Eells Test of General Intelligence or Problem Solving Ability	
	(g) Deeside Picture Test for Seven Year Olds	
	(h) IPAT Culture Free Intelligence Test	
	(i) Lorge-Thorndike Intelligence	

INDEX OF ALL INSTITUTE TESTS (MISCELLANEOUS)

The following standard tests are on file and available for use.

Category	Test	Population and Comments
I.	INTELLIGENCE TESTS (CONTINUED):	
	(j) Otis Quick-Scoring Mental Ability Tests	
	(k) Peabody Picture Vocabulary	
	(l) Pintner-Patterson Performance Test	
	(m) Pintner Cunningham Primary Test	Kindergarten-2nd grade
	(n) Pintner-Patterson Short Form	
	(o) Purdue Non-Language Test	Grades 9 - 12, adults
	(p) Raven Progressive Matrices 1947	No norms for individual administration
	(q) Revised Beta Examination	Grades 7 - 12, adults
	(r) Stanford-Binet Intelligence Form L " M	
	(s) SRA Non-Verbal Intelligence	
	(t) Tests of General Abilities	
	(u) Test of Primary Mental Abilities	
	(v) WISC	

INDEX OF ALL INSTITUTE TESTS (MISCELLANEOUS)

The following standard tests are on file and available for use.

Category	Test	Population and Comments
II.	PERSONALITY TESTS:	
	(a) Blacky Pictures	ages 5 and over, no norms, individual
	(b) Children's Apperception Test	ages 3 - 10; individual
	(c) Edwards Personal Preference Schedule	college and adults, college norms only
	(d) Goodenough Draw - A - Man	kindergarten-3rd grade
	(e) Personality Adjustment Test	
	(f) Projective Story Telling	measures organization of child's self concept
	(g) Self-Image Inventory	
	(h) Rorschach	
	(i) Thematic Apperception Test	
III.	PERCEPTUAL TESTS:	
	(a) Bender Motor Gestalt Test	
	(b) Mirror Tracing Apparatus	
	(c) Muller-Lyer and Vertical-Horizontal Illusion Test	
	(d) Porteus Mazes	
	(e) Porteus Maze Extension	14 years and over; no adult norms

INDEX OF ALL INSTITUTE TESTS (MISCELLANEOUS)

The following standard tests are on file and available for use.

Category	Test	Population and Comments
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IV.	MOTOR CO-ORDINATION TESTS:	
	(a) Groove Type Steadiness Tester	
	(b) Tapping Test	
V.	LATERAL-DOMINANCE TESTS:	
	(a) The A-B-C Vision Test for Ocular Dominance	
	(b) Harris Tests of Lateral Dominance	ages 7 and over, individual
VI.	SCHOOL ACHIEVEMENT:	
	(a) Wide Range Achievement Test	
	(b) Wide Range Vocabulary Test	

INDEX OF ALL INSTITUTE TESTS (MISCELLANEOUS)

The following standard tests are on file and available for use.

Category	Test	Population and Comments
VII.	READING TESTS:	
	(a) Dominion Oral Diagnosis of Word Analysis Skills	grades 1 - 2; individual; no norms
	(b) Durell Analysis of Reading Difficulty Test	grades 1 - 6, individual
	(c) Durrell-Sullivan Reading Capacity and Achievement Tests	grades 2.5 - 4.5
	(d) Gates Basic Reading Tests	grades 3.5 - 8
	(e) Gates Reading Tests	
	(f) Gilmore Oral Reading Tests	grades 1 - 8, individual
	(g) Gray Standardized Oral Reading Paragraphs	
	(h) Here We Go Diagnostic Reading Readiness Test	
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	(k) Metropolitan Readiness Tests	

INDEX OF ALL INSTITUTE TESTS (MISCELLANEOUS)

The following standard tests are on file and available for use.

Category	Test	Population and Comments
VII.	READING TESTS (CONTINUED):	
	(l) New York Tests of Growth in Reading	
	(m) New York Reading Readiness	
	(n) Roswell-Chall Diagnostic Reading Test - Form 1	grades 2 - 6, individual
	(o) Stanford Achievement Tests: Primary Elementary Intermediate	
	(p) Van Wagenen-Dvorak Diagnostic Examination of Silent Reading Abilities	
	(q) Monroe Diagnostic Reading Examination	

SHORT DESCRIPTION OF INSTITUTE TESTS

I. SOCIAL CLASSIFICATION AND BEHAVIORAL EVALUATION

This section includes tests which may be classified as either appraisal scales or interview measures.

The interview measures (Social class background scale, Social factors interview, and Socio-economic status interview) are used to establish the child's location in the socio-economic status hierarchy which characterizes N.Y.C. It is assumed that there is an entire constellation of attitudes, cognitive abilities, styles of life, etc., which are correlated with socio-economic status (SES). SES will be experimentally related to various verbal, perceptual, and cognitive tests, etc., as well as to various measures of social behavior which are contained in some of the interviews.

The appraisal scales (all those not listed as interview measures) are used to characterize the non-test responses of the child. They are used to assess behavior which, while not directly relevant to a particular test, may nevertheless affect scores on that test (e.g., disposition towards the tester, general co-operativeness, general motivation).

A. Behavior judgment scale: (1)*

The purpose of this scale is to screen out children who are unduly anxious and to record subtleties of test taking which may affect performance. This form, completed by the Institute's testers after each contact with a subject, consists of a number of polar adjectives taken from Osgood's Semantic Differential. It serves primarily as a means of eliciting specific judgments of the child and providing an organized means for the tester to communicate his evaluation of the subject. Each of these adjectives is checked off on a five-point scale ranging from positive to negative. Examples of items used are: friendly-unfriendly, willing-unwilling, and careful-careless. A social distance scale is also included for a more personal evaluation of the child.

Two scores are derived from the scale: First, a single mean score for all the characteristics on which the child has been rated. (All the characteristics are arrayed on a positive-negative dimension, so that ratings can be added. The second score is a rating from 1 to 5 on the Social Distance Scale, ranging from a highly negative to a highly positive evaluation of the child.

B. Behavior evaluation scale: (1)

The purpose of this scale is to provide an objective description of the behavior of children in an unstructured situation, and the scale is designed to be as free as possible from the necessity of observer inference. Since this scale was originally developed for drug studies, it is divided into three sections which were thought to tap those behaviors most likely to be influenced by

SHORT DESCRIPTION OF INSTITUTE TESTS

I. SOCIAL CLASSIFICATION AND BEHAVIORAL EVALUATION (CONTINUED)

B. Behavior evaluation scale: (CONTINUED)

drugs: (a) activity, (b) social interaction, and (c) general mood, motor, and appearance judgments.

The child is scored on degree and type of motor activity, the amount and kind of verbal and non-verbal interpersonal interactions, and the more subjective characteristics of general affect and appearance.

C. Social class background scale: (1)

This scale, a Mail Questionnaire which is sent to the parents of all children in the Institute's sample, is used for determination of the socio-economic position of the family. The questions are designed to elicit specific information about the occupation of the major support of the family. Supplementary questions which are to be correlated with SES are included.

The primary score derived from this questionnaire is a level assignment of from 1 to 7 for SES. This is based upon a system developed by M. Hamburger. Unlike socio-economic status interview, this questionnaire is designed for a very specific level assignment.

D. Social factors interview: (1)

The purpose is to obtain data about selected salient characteristics of the child's life, such as nutrition, social interaction, and exposure to mass media. (These items have been selected as representing a skeleton outline of a more extensive interview contemplated for future use.)

Scoring will be for each of the categories listed above.

E. Socio-economic status interview: (1)

The basic purpose of this interview is to estimate socio-economic status from the child. The major criterion of socio-economic status is the occupation of the major support of the family. Thus, the most important information is usually the occupation of the father. In addition, information about the number of people in the family, number of rooms they occupy, etc., is obtained.

The basic score for the test is a rating from 1 to 7 for socio-economic class according to the levels of M. Hamburger. Though the interview does not provide sufficiently precise information for definite assignment to level, pilot data indicate the feasibility of an accurate placement in lower class, middle class, or an intermediate category.

SHORT DESCRIPTION OF INSTITUTE TESTS

1. SOCIAL CLASSIFICATION AND BEHAVIORAL EVALUATION (CONTINUED)

F. Student evaluation scale: (1)

Information from this scale will be used as one criterion of the child's academic success. A sub-section, personal assessment, provides information concerning the degree of rapport between tester and child. This scale is given to teachers to obtain their evaluations of the students in their classes. It consists of eight questions about the child's academic achievement, social adjustment, and motivation - plus a personal assessment of the child by the teacher, using an adaptation of the Bogardus Social Distance Scale.

Two scores will be derived from this form. First, there will be a single score for the eight items on a three-point scale. A second score will be a rating of 1 to 5 (ranging from highly negative to highly positive) on the adaptation of the Bogardus Social Distance Scale.

II. VERBAL TESTS

The purpose of the verbal survey is to obtain samples of children's speech from the simplest, single response to spontaneous continuous unstructured verbal behavior. It is also the purpose of the verbal survey to relate verbal behavior to perceptual, cognitive, and cultural factors, particularly socio-economic class and to scholastic performance and cognitive style.

A. Spontaneous expressive tests:

1. Clown test: (E1)**

The purpose of this test is to obtain a sample of the younger child's spontaneous expressive speech. It is useful only with young children (7 and below). The child is read a story about Happy the Clown. Then, he is introduced to Happy and asked to play a game with him. (He is seated directly in front of the clown, and a microphone is placed around his neck.) The clown speaks to the child, asking him to speak to make him happy. The child is told that he will get a prize if he plays the game well, and that when the clown is happy, his nose will light up. The nose lights up only when the child speaks.

**E indicates special equipment devised and required.

SHORT DESCRIPTION OF INSTITUTE TESTS

II. VERBAL TESTS (CONTINUED)

A. Spontaneous expressive tests (continued):

1. Clown test (continued):

The protocols may be utilized in a variety of ways. For example, they may be used as a measure of total output, as an indicator of the child's flow of speech, or they may be used for more qualitative analyses.

2. Rocket: (E2)

The purpose of this test is to obtain a sample of the older child's spontaneous expressive speech. It is a modification of the Clown for use with fifth graders. The motivating principle is that the rocket ascends when the child speaks.

Scoring procedures will be comparable to those used for the Clown.

B. Verbal meaning and context tests:

1. Cloze: (1)

The Cloze procedure will be used to measure two aspects of the child's verbal ability, namely: (1) the ability of the child to predict the exact word missing from a meaningful sequence of words, and (2) the ability of the child to place a logical, meaningful word in the blank. There are two forms of the Cloze for both young subjects (first graders) and older subjects (fifth graders). For the young subjects, the technique consists of 10 sentences in which one word is deleted from each sentence, preferably toward the end of the sentence. The Cloze for fifth graders consists of short stories in which words are deleted. (Here, two of the stories are missing every nth word, while only nouns and verbs are deleted from the other two.) The Cloze for the first graders is administered orally and individually. The Cloze for fifth graders is adapted for group administration.

Scoring will be for both exactness and adequacy of prediction.

2. Verbal meaning and context of children's speech samples: (3)

The purpose of this test is to assess the ability of teachers and children to predict words missing from a verbatim sample of the continuous speech of children (members of their own socio-economic class or another).

Scoring is either (or both) in terms of number of correct predictions of the deleted words or number of

SHORT DESCRIPTION OF INSTITUTE TESTS

II. VERBAL TESTS (CONTINUED)

B. Verbal meaning and context tests (continued):

3. Verbal meaning and context of teacher's speech samples: (3)

The purpose of this test, an adaptation of the Cloze, is to assess children's comprehension teachers' speech. The material used originates from a verbatim sample of the continuous speech of several teachers. The material will be transcribed with certain words omitted and will then be presented to children.

Scoring will be either (or both) in terms of number of correct predictions of deleted words, or number of meaningful word insertions independent of deleted word.

C. Verbal structure and meaning tests:

1. Expressive guessing test: (1)

The purpose of this test is to provide a measure of the child's willingness to guess an index of inquisitiveness, or general motivation to discover answers. (The assumption is that the child who is willing to guess is more likely to learn rapidly than the child who refuses to guess, or who cannot guess.) The examiner presents the child with a large box, and asks him to try to guess what is in the box. This guessing takes place under one of two conditions: (1) the child is not told whether he is right or wrong, and (2) the child is immediately rewarded or punished for his response.

Scores will involve the number of guesses made and their accuracy.

2. Verbal Identification test (Peabody picture vocabulary test):

The purpose of this test is to measure the child's ability to correctly describe and identify a set of pictorial stimuli of objects, events, and people in his environment. The stimuli are so constructed that the difficulty involved in labeling an action, or a complex of non-action stimuli can be contrasted. The task consists of first describing a picture with as many words as the child chooses and then with a single most appropriate label.

The responses are scored for inclusiveness and precision.

SHORT DESCRIPTION OF INSTITUTE TESTS

I. VERBAL TESTS (CONTINUED)

C. Verbal structure and meaning tests: (continued)

3. Picture identification test (Peabody picture vocabulary test):

This test is believed to measure the simplest form of verbal behavior (i.e., the morphological level) by relating a label to its visual counterpart. This is a multiple-choice recognition vocabulary test. The child is told a word and requested to select by pointing the picture of the word from among a set of four pictures. No verbalizations on the part of the child are necessary. The operations involved are minimal.

4. Verbal fluency test (Forced associations): (2)

The purpose is to obtain a measure of the child's fluency. It is not a vocabulary test. Thus, the basic materials are kept quite simple. The child is requested to give as many words as he can that begin or end with a certain sound, to construct a meaningful sentence using three specific common words, and to give synonyms for certain very common words.

The child will be scored for number of responses by task (five in all), and for adequacy of response.

5. Word association test: (1)

The purpose is to obtain a sample of semi-structured speech-mid-way between spontaneous and stereotyped associations. The test consists of 14 test words. The subject is required to make approximately five discrete associative responses to each. The stimulus words were selected empirically on the basis of socio-economic class differences in associative response - the middle class children exhibiting more popular (frequent, or homogeneous) responses to these stimulus words than children from the lower class. Administration time is about 25 minutes.

The discrete responses will be used to estimate types of syntactic and semantic associations, cognitive set, and convergent-divergent thinking. Measures of latency of response to each stimulus word will also be obtained.

6. Word distance scale: (2)

The purpose is to measure the degree of relatedness of words to other words in terms of associative belongingness, or "connotative spread." The test consists of eleven stimulus words, each accompanied by a set of ten words scaled ordinally in terms of semantic distance from the stimulus

SHORT DESCRIPTION OF INSTITUTE TESTS

II. VERBAL TESTS (CONTINUED)

C. Verbal structure and meaning tests (continued):

6. Word distance scale (continued): (2)

word. (The scaled words are presented randomly in practice to control for set to respond positively or negatively.) The child is instructed to say yes or no to indicate whether he believes that each of the ten comparison words goes with the stimulus word. The mean word distance at which the child begins to indicate that the comparison word does not go with the stimulus word is taken as a measure of what is called "connotative spread."

The child's score is his connotative spread score.

7. Word utility test: (1)

The test is used to assess cultural or class differences in functional meanings. The test consists of 44 words which the child is asked to define in terms of use or function, rather than in terms of associative meaning.

Scoring will be by content analysis for independence, novelty, proximal-distal uses, etc. An analysis in terms of educational versus non-educational stimulus words (e.g., learning, stone) is also intended.

III. PERCEPTUAL TESTS:

The tests in this section assess sensori-motor relationships in a variety of contexts - vigillance, shifting modalities, and perceptual organization in situations varying in structure. The intent is to investigate factors potentially underlying success in learning to read, particular organizations of cognitive style (memory, attention, etc.) and in some instances, modality "efficiency."

A. Attention-span battery:

This test battery consists of tests intended to measure various aspects of attention. Depending on the occasion, it might include the Word-Memory Test (Show and Tell), Auditory-visual digit span, Auditory-visual continuous performance test, Auditory-visual interference task, and the modality switcher. The Draw-A-Circle test belongs here historically and according to concensus. It will be described briefly, while the others are described elsewhere.

The purpose of the Draw-A-Circle Test is to measure attention span. The child is required to draw a circle as slowly as possible, and then to repeat the operation on a

SHORT DESCRIPTION OF INSTITUTE TESTS

III. PERCEPTUAL TESTS : ONTINUED)

A. Attention-span battery (continued):

Scoring is for diameter of circle, time to draw, and congruence of first and second circles (e.g., comparability of size or of time to draw).

B. Bimodal reaction time apparatus: (E1)

The purpose is to measure responsivity to mode of stimulus presentation and to sequence of modes (modality sequence). One hypothesis is that ability to shift from one modality to another is related to learning to read, and that retarded readers are deficient in this ability. The apparatus is capable of presenting four stimuli: a red or green light, a high tone (1200 cps) and a low tone (400 cps). The response required is lifting a finger from a button when any of the stimuli is presented. Thus, the response remains the same, though the stimulus varies. Response latencies are automatically recorded.

Several reaction time scores are obtained: (1) simple reaction time to sound, (2) simple reaction time to light, (3) reaction time to sound (or light) which is preceded by light (or sound), and (4) reaction time to light preceded by light (e.g., red preceded by green) or sound preceded by sound (e.g., 400 cps preceded by 1200 cps). Measure 3 is called cross-modal reaction time, while measure 4 is known as ipsimodal reaction time.

C. Pattern board: (E3)

This apparatus will be used to evaluate children's ability to reproduce various designs. Suggested problems involving use of this machine are (a) cumulative design and reproduction, (b) perceptual organization, and (c) modality interference effects.

SHORT DESCRIPTION OF INSTITUTE TESTS

III. PERCEPTUAL TESTS (CONTINUED)

D. Perceptual closure scale: (1)

Performance on this test is used as an index of perceptual organization, particularly in problems involving pre- and post-test measures. Test performance correlates with reading ability in children and adults, but not with IQ. The child is shown an outline drawing of a boy in which there are several breaks or gaps in the lines. The child is instructed to reproduce the drawing on the lower portion of the same sheet of paper (there are terminal points for establishing the general outline on which the figure is to be reproduced). Closure tendency is reflected by the mean size of the gaps in the reproduction.

E. Pictorial and auditory absurdities: (3)

The purpose of this test is to measure differences in auditory and visual competence in perceiving nuances and secondary features of stimuli. The child will be presented with complex stimuli (auditorially and visually) in which illogical or impossible combination exist, e.g., a kitchen sink with faucets turned up. It is hypothesized that performance on this test will be related to reading, and to scrutinization-scanning orientation in perception.

Three scores will be obtained: (a) adequacy of response for visual presentation, (b) adequacy of response for auditory presentation, and (c) ratio of score (a) to score (b).

F. Scanning test: (1)

The purpose of the test is to assess some organizational abilities which are similar to those used in reading processes. The test consists of 25 numbers randomly placed on a sheet of paper, so that the appearance is scrambled - no clear pattern being readily discernable. The sheet is presented to the subject with the instruction that he read the numbers as fast as he can. The child's responses are recorded on a tape recorder.

The basic score is goodness of organization. Each child is assigned a rating of from 1 to 5 in terms of the degree to which the order in which he repeats the numbers conforms to a logical horizontal reading pattern from left to right. Deviant patterns such as vertical may also be rated for organization on a scale from 1 to 5.

See also: Section on Auditory-Visual Tests.

SHORT DESCRIPTION OF INSTITUTE TESTS

IV. COGNITIVE TESTS:

The tests in this section assess cognitive factors which will be related to (a) school achievement, (b) intelligence, and (c) non-verbal intellectual performance. These in turn, will be related to social class and experiental factors, ethnic membership, and some personality and self-concept characteristics.

A. Concept attainment task: (1)

The purpose of this test is to measure the level of conceptual development attained by the child, the particular area of conceptual development being the ability to place stimuli in categories of classes of increasing exclusiveness. The child is presented with a booklet consisting of pictorial stimuli representing concepts of identicality, similarity, class specificity (person or animals), and class generalization (living things). The child is instructed to choose stimuli which belong together and to give a verbal explanation for the grouping.

The test is scored as to whether the grouping of stimuli and the verbal responses yield a class or non-class response. The child is scored for total number of class responses and level of abstraction attained.

B. Conceptual sorting task: (2)*

The purpose of the task is to measure the child's ability to form implicit categories. The child is presented with twenty cards in a random order and instructed to sort them into logical piles. The child explains his groupings.

The child will be scored for number of sorts according to (a) association, (b) function, and (c) class, separately.

C. Orientation scale: (1)

The scale consists of items intended to measure general environmental knowledge. It focuses particularly on spatial and number concepts, and simple general judgmental processes.

Each item is coded and scored on a 0 to 2 point scale,

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* There are several important differences between the Conceptual Sorting Task and the Concept Attainment Task (described above): (a) The types of logical categories tapped are different. (b) The Conceptual Sorting Task requires more active manipulation on the part of the child. (c) The child is not aware that he will be called on to give explanations for his method of sorting until the end of the Conceptual Sorting Task.

SHORT DESCRIPTION OF INSTITUTE TESTS

IV. COGNITIVE TESTS (CONTINUED)

C. Orientation scale (continued): (1)

depending on the age level at which it is presented and its complexity.

D. Osler concept formation task: (E3)

This task appears to be a good measure of concept formation which is sensitive to age, and apparently IQ. The concept materials (on film strips) are presented by a machine which also delivers a reward for each correct response. The child responds by pressing one of two levers. The materials are ordered in ascending level of difficulty, with many trials at each level. It is anticipated that the machine will be used in the Institute's laboratory for the study of enrichment procedures for brain-damaged children, and that kind and ratio of reinforcement will be the major experimental parameters.

Record will be kept of number and correctness of response

V. DOMINANCE-LATERALITY TESTS:

This section consists of tests investigating lateral dominance factors - factors long associated with neural organization and implicated in the extensive literature on reading and speech disabilities.

A. Lateral dominance test: (2)

This is a test designed to measure dominance in motor or sensory capabilities of one side of the body over the other. It has been used extensively in the past, as tradition holds that people with mixed dominance are more likely to have speech and reading disabilities. The test consists of items that measure individual's eyedness, handedness, and footedness by presenting subject with a task and then determining whether the left or right organ dominates.

Scoring is in terms of eyedness, handedness, and footedness.

B. Left-right discrimination: (1)

This is a test which measures the ability of the individual to locate his own body and the examiner's in space with reference to the directions left and right, a faculty deficient in brain-damaged persons which normally develops

SHORT DESCRIPTION OF INSTITUTE TESTS

V. DOMINANCE-LATERALITY TESTS (CONTINUED)

B. Left-right discrimination (continued):

with age. The test is done by handing the subjects directions which request him to indicate left or right parts of his own body and of the examiner's, and to combine left and/or right body parts in following instructions. For example, "Put your left hand on your right ear."

The score is the number of correct performances.

C. Parallel lines: (2)

The test is used to measure perceptual-motor co-ordination and (for first graders) handedness. Two closely-placed parallel vertical lines and two closely-placed horizontal parallel lines are presented to the child, who is asked to draw a third parallel line between them with a pencil without touching either of the printed lines.

If the test is being used as a measure of perceptual-motor co-ordination, the score obtained is the number of times the subject's line touches either of the two boundary lines. If the test is being used as a measure of handedness, the score is whether the left or right hand is used.

D. Tapping or circle dotting: (E2)

Rate of tapping is known to be influenced by a variety of factors, including fatigue, drug state, and psychopathology. A form of tapping test will be used by the Institute in drug studies as a measure of onset of drug effects, and perhaps their magnitude. The Circle Dotting Test is a form of tapping test which the Institute has used. The subject simply places a dot i each of a series of circles printed on paper. There is a time limit (which was sufficiently long to permit dotting of each circle presented in the summer population).

Scoring varies with the type of tapping test used. In general, scores include rate (number of taps in a given time), change in rate, and area in which the dot is placed. For the Circle Dotting Test, scores include number of dots, proximity of dot to center of circle, and type of mark used (dot, small circle, etc).

SHORT DESCRIPTION OF INSTITUTE TESTS

VI. AUDITORY-VISUAL TESTS:

This section consists of tests concerned with modality preference and modality efficiency. Children will be compared to themselves in terms of preference and efficiency between modalities. It is anticipated that modality preference and modality efficiency will be related to adequacy of reading, to the optimal type of enrichment program (e.g., visual or auditory) for the individual child, and to learning efficiency in the remedial enrichment learning situation.

A. Learning and immediate-memory tests:

1. Auditory-visual digit span: (3)

The purpose of this test is to compare the child's immediate-memory score for material presented visually with his immediate-memory score for materials presented auditorially. Random sequences of digits of various lengths will be used. Under the auditory condition, they will be read to the child in the precise manner used on the Wechsler and the Binet. Under the visual condition, they will be presented on a card, and the child will be allowed to study them for a fixed period of time.

One score will be obtained for each modality: the length of the longest unit the child can repeat without error. A third score, reflecting relative performance by modality, will be the ratio of the auditory score to the visual score.

2. Auditory-visual meaningful materials: (3)

The basic intent in using this test is the same as that for using the Auditory-visual paired associates and Auditory-visual serial learning tests: to compare the child's learning performance when materials is presented visually with his learning performance when material is presented auditorially. There is, however, one important difference: This test will use meaningful materials meaningfully related. This is not, then, a rote-learning task in the sense that the other two tests clearly are. The material will be presented as a story, told either throught a series or pictures or read to the child. A series of questions concerning factual details of the story will then be asked. The story will then be presented again, visually or auditorially, and the Q's asked again. This will continue until learning criterion is reached.

The scores obtained for each modality will be as follows: (1) the number of errors made on trial 1, and (2) the number of presentations required for the child to reach learning criterion. To compare performance on the two modalities, two ratio scores will be obtained: (3) ratio of score 1 for auditory test to score 1 for visual test, and (4) ratio of score 2 for auditory test to score

SHORT DESCRIPTION OF INSTITUTE TESTS

VI. AUDITORY-VISUAL TESTS (CONTINUED)

A. Learning and immediate-memory tests (continued):

3. Auditory-visual paired associates: (3)

The purpose of this test is to compare the child's learning performance when material is presented visually to his learning performance when material is presented auditorially. For stimuli, splotches of color or their names will be used, depending on condition. For responses, pictures of objects or their names will be used, again depending on conditions. The child's task will be to learn to respond with the name of the response object when the color (or name of the color) is given.

Three scores will be obtained: (1) the number of trials the child takes to learn the auditory series, (2) the number of trials the child takes to learn the visual series, and (3) the ratio of score 1 to score 2.

4. Auditory-visual serial learning: (3)

The purpose of this test is to compare the child's learning performance when material is presented visually to his learning performance when material is presented auditorially. This task differs from Auditory-Visual Paired Associates only in that the materials (nouns or the objects they represent) are presented serially. It is anticipated that either this test or Auditory-Visual Paired Associates will be dropped following pilot testing.

Three scores will be obtained: (1) number of trials the child takes to learn the auditory series, (2) the number of trials the child takes to learn the visual series, and (3) the ratio of score 1 to score 2.

5. Word memory test (Show and tell): (1)

This is a test designed to measure memory for simple words and objects, and to relate memory to mode of stimulus presentation, i.e., visual or auditory. The test consists of 10 pictures or simple objects on 2x2 cards. The subject is alternately shown a picture and told the name of the object which is pictured on the next card, i.e., cards 1,3,5,7, and 9 would be shown to the subject, whereas the objects pictured on cards 2,4,6,8, and 10 would be named to him. In practice, the cards are shuffled before presentation to the subject to control for order and item effects. Recall is measured following an interval during which other tests are administered. (This interval has ranged from 3 to 7 minutes.)

SHORT DESCRIPTION OF INSTITUTE TESTS

VI. AUDITORY-VISUAL TESTS (CONTINUED)

A. Learning and immediate-memory tests (continued):

5. Word memory test (Show and tell): (continued)

Scores are (1) the number of objects recalled, (2) the number of recalls of visually presented versus the number of recalls of aurally presented stimuli, (3) order of recall of stimuli compared with order of initial presentation, and (4) potential interaction between order of presentation and stimulus mode.

B. Modality efficiency tests:

1. Auditory-visual continuous performance test: (E3)

This is a type of vigillance test in which watch-keeping performance for specific signals will be measured separately for auditory and visual modalities. Specifically, a series of letters of the alphabet will be presented to the subject either visually (via a memory drum) or auditorially (via tape machine). The child will be instructed to press a button when the letter X appears, or (under a more difficult condition) when X occurs preceded by A. Correct presses and errors will be recorded automatically.

The scores obtained will be two in number for each modality: (a) an absolute score which is the number of correct responses divided by the total possible correct, and (b) a relative score which is the number of correct responses divided by the total number of presses made. Two additional scores reflecting relative level of performance in the two modalities will be obtained, (c) absolute auditory divided by absolute visual, and (d) relative auditory divided by relative visual.

2. Auditory-visual interference tasks (E3)

This test is in a very early stage of development conceptually. The intent is to use both auditory and visual stimuli as distractors during performance of a task on the pattern board. Decrement in performance by modality can then be analyzed.

SHORT DESCRIPTION OF INSTITUTE TESTS

VI. AUDITORY-VISUAL TESTS (CONTINUED)

C. Modality preference tests:

1. Modality preference test: (E2)

The purpose of this test is to measure the precedence of one modality (only auditory and visual modalities have been used so far) over another for a subject. Examples of the kinds of items are: (1) a question asking a child to choose between a television set which has no picture and one which has no sound, (2) simultaneous presentation of intense audio and visual stimuli and subsequent questioning of the subject as to which was primarily perceived.

Scores derved are the number of tives each modality is preferred. (The Word Memory Test, which was described earlier, is sometimes considered a part of this test.)

See also: Attention span battery, bimodal reaction time apparatus, pattern board and pictorial and auditory absurdities.

VII. READING TESTS

The reading battery is designed to give the best possible picture of the child's abilities, including his general reading level as well as specific skills important in maintaining that particular level.

Three tests measure general reading comprehension. Two silent reading tests are included in order to spread the range of reading scores from early second year to late twelfth year. An oral reading test compliments the silent reading tests and adds the demands of oral performance as another dimension. (The oral reading test also provides diagnostic material concerning the child's methods of reading.)

Two more specific parts of reading are also measured in the battery, parts which are considered essential to good reading performance, but which do not represent the global reading skill. These tests are more diagnostic in nature. The Sight Vocabulary Test shows the size and level of the child's reserve of words recognized instantly. The Word Parts Test measures some of the skills needed in analyzing new words or phonic skills, on both visual and auditory levels.

The Reading Prognosis Test attempts to measure some of the incipient reading skills of the child entering first grade in order to predict his future competence with primary reading.

These categories of reading tests have different purposes. Therefore, while a total score for one test category, is possible, e.g., combining silent and oral reading scores, scores from different categories may never be combined.

SHORT DESCRIPTION OF INSTITUTE TESTS

A. Reading achievement tests

(1) Silent reading tests

(a) Gates Advanced Primary Silent Reading Test-Paragraphs: (1)

This is a silent reading test designed to measure the ability to fully and accurately comprehend what is read. The test consists of a series of paragraphs graded difficulty. The child is asked to complete a task given in each paragraph, usually to make a mark on one of the pictures accompanying each item. It is easily administered to a group. The time limit is 25 minutes for the 32 items.

The raw score is the total number of items correct. Tables are available for conversion to comparable grade scores. The range of norms is from late first grade to sixth grade.

(b) Gates Basic Reading Test - Level of Comprehension:

This silent reading test is designed to measure the child's ability to read complex, difficult material with a reasonable degree of comprehension. It consists of 20 paragraphs arranged in order of increasing difficulty. In general two answers are required for each paragraph. The child is asked to choose one of five words presented to fill in a blank in the paragraph to make a statement meaningful. There is no time limit. The test is designed for children in the latter part of the third grade through grade 8, or for children reading on those grade levels. It can be given to large groups.

The raw score is the number of items correct. Comparable reading grade scores are available. The range of norms is from early second grade to the end of grade twelve.

(2) Gates McKillop Reading Diagnostic Test-Oral Paragraphs: (1)

This test is a measure of the child's oral reading skills: his ability to read aloud smoothly and meaningfully. A record of the kinds of errors the child makes, his method of word attack, and his test behavior can also be assessed on this test. There are seven paragraphs of graded difficulty in each form which can be used with children from early second grade through the eighth grade. The Oral Paragraphs are available in two forms, I and II, which contain equivalent material.

The errors can be classified according to type, giving a diagnostic picture of the child's reading deficiencies. Tables of norms are provided for converting the number of errors per paragraph into a score which has a comparable grade score representing an over-all

SHORT DESCRIPTION OF INSTITUTE TESTS

Diagnostic reading tests

(1) Sight Vocabulary:

This test, which consists of 40 words in order of increasing difficulty, is intended to measure the child's ability to pronounce words correctly at first sight. It taps the child's fund of known words. The child is allowed five seconds for each word.

The raw score is the total number of correct responses. A table is provided to translate this raw score into a corresponding grade score. Norms are given for first through early sixth grade.

(2) Word parts test:

This test is composed of two parts: Visual and Auditory. It is designed to assess the child's knowledge of various word analysis skills important for reading. Each test contains three sections: Sounds, Words, and Syllabication. In Sounds are included the basic elements of consonants, vowels (both long and short sounds), and consonant blends. The Words section tests knowledge of short and long vowel words and diphthongs in words. The Syllabication section measures skills in working out unknown words. The test can be administered to children who have had reading instructions. The norms range from first through fifth grades.

Three visual and three auditory scores will be obtained for Sounds, Words, and Syllabication. (The Auditory norms are not yet complete.) Scores are weighted according to difficulty of skill. The raw scores for each section, as well as the total raw score, can be converted into grade scores.

Prognostic reading tests

(1) Reading prognosis test: for kindergarten and first-grade children: (2)

This test is designed for use with children who have had some exposure to instruction, and for whom the usual reading readiness tests are thus not appropriate. The test was devised to measure certain incipient skills which are viewed as basic for further achievement in reading.

The subtests are as follows:

SHORT DESCRIPTION OF INSTITUTE TESTS

C. Prognostic reading tests (continued)

(1) Reading prognosis test (continued):

(a) Naming letters: This measures the child's knowledge of the of the alphabet.

(b) Meaning vocabulary: This measures the child's experience with words.

(c) Sight vocabulary: This measures the extent of a child's mastery of words in the world about him. The words included are ones the child has seen at home, but which have not been taught to him formally.

(d) Visual discrimination: This test measures the child's skill in discriminating differences in symbols. Three types are used: (1) quasi-letters resembling letters only in some aspects, (2) letters of the alphabet, and (3) words. For each type, the child is asked to make distinctions of detail, reversed symbol (left to right), changed direction, and closure of symbol.

(e) Visual similarities: This test is a measure of skill in matching like symbols. Categories identical to those of Visual Discrimination are used, with different examples presented.

(f) Auditory discrimination: This test measures the child's ability to distinguish differences in words presented auditorially. Words of one syllable with different beginnings, middles, or endings are used, and words of two syllables with different middles and endings are also included.

(g) Story telling: The child chooses one of three pictures and is asked to tell a story about it. It is intended to measure the child's ability to comprehend and make a complex whole story from a picture with many cues. An auditory story with no ending to accompany visual story telling is contemplated.

See also: Scanning Test

APPENDICES

APPENDIX I:

OVERVIEW

There are two major phases in the Institute's research program: (I) exploration of early environmental factors and their relation to various cognitive, perceptual, achievement and motivational factors, and (II) the development of school remedial reading and enrichment programs.

Phase I: Early environmental factors and their relation to various abilities

Children from families differing in socio-economic status from lower-lower to middle-middle will be selected for study. Though the relation is less than perfect, the relation between social class and home and play environments, kinds and amounts of social interaction, etc., is sufficiently high that selecting children from families differing in socio-economic class will assure a wide spread of early learning environments among the children and provide a basis for grouping them which will assure fairly high homogeneity of experience within groups. It is believed that the differences in early learning experiences between the extreme socio-economic groups should be large: the lower class child lives in an environment which is much less rich verbally, conceptually, perceptually, and interpersonally in terms of middle-class standards, though it may actually be richer in some ways.

The Institute's large test battery is intended to assess the child's achievement in cognitive style, perceptual ability, language development, and reading achievement. Possible class differences, presumably due to different early learning experiences, will be explored. Also, relations between tests, especially the relation between the reading tests and the others, will be studied.

Phase II: School remedial reading and enrichment programs for lower class children.

Phase II is to be based on information obtained from Phase I. The types of reinforcements and incentives, the degree of classroom structure, and so on, will be investigated with modifications based on knowledge of the class-related experiences of the child, since it is assumed that the type of remedial reading and/or enrichment program most likely to succeed with the child will depend on his early-learning experiences.

Modifications based on information concerning cognitive style, perceptual ability, language development, and reading achievement will also be made, with class differences along these dimensions of analysis taken into account. (The reading battery will be used both to assign children to remedial-reading groups and for the diagnosis of reading problems. All test categories will be involved in the enrichment programs ultimately contemplated.)

Comment: The orientation of the Institute is both theoretical and applied. Theoretically, primary interests center about the effects of

different environments on early learning, the effects of these early-learning experiences on later development, and the factors underlying school achievement and intellectual growth. Practically, primary interests involve devising workable remedial reading and enrichment programs for lower-class children based on knowledge of the effects of class differences in life experience and what they imply for developmental processes.